

CLAIMS

We claim:

1. A method of increasing crop yield comprising administering a composition comprising a polysaccharide on a seed or seed piece of said crop or to a soil in which said crop is cultivated.
2. A method for accelerating crop emergence comprising administering a composition comprising a polysaccharide on a seed or seed piece of said crop or to a soil in which said crop is cultivated.
3. A method accelerating crop maturity comprising administering a composition comprising a polysaccharide on a seed or seed piece of said crop or to a soil in which said crop is cultivated.
4. The method of claim 1, 2 or 3, wherein the polysaccharide is selected from the group consisting of a cellulosic derivative, starch or a starch derivative, pectin, carrageenan, an exudate gum polysaccharide, polysaccharide derived from seed gum and alginates.
5. The method of claim 4, wherein the cellulosic derivative is alpha cellulose.
6. The method of claim 4, wherein the starch or starch derivatives is tapioca starch or corn starch.
7. The method of claim 4, wherein the exudates gum polysaccharide is gum arabic, gum ghatti, gum karaya, and gum tragacanth.
8. The method of claim 4, wherein the polysaccharide may be derived from seed gum is guar gum or locust bean gum.
9. The method of claim 1, 2 and 3, wherein said composition further comprises limestone.

10. The method of claim 1, 2 and 3, wherein said composition further comprises a drying agent.
11. The method of claim 10, wherein the drying agent is fir bark.
12. The method of claim 1, 2 or 3, wherein said polysaccharide is present in an amount of 0.1-99.9% by weight of the dry weight of the total composition.
13. The method of claim 9, wherein said limestone is present in an amount of 0.1-99.9% by weight of the dry weight of the total composition,
14. The method of claim 11, wherein said fir bark is present in an amount of 0.1-99.9 % by weight of the dry weight of the total composition,
15. The method of claims 1, 2 and 3, wherein administering is performed before seeding of said crop.
16. The method of claims 1, 2 and 3, wherein administering is performed simultaneously with seeding of said crop.
17. The method of claim 1, wherein administering is performed after seeding of said crop.
18. A seed composition comprising a crop seed and coating, said coating comprising a polysaccharide.
19. The composition of claim 18, wherein the crop seed is a potato piece.
20. The composition of claim 18, wherein the crop seed is a grain.
21. The composition of claim 20, wherein the grain is barley.
22. The composition of claim 18, wherein the polysaccharide is selected from the group consisting of a cellulosic derivative, starch or a starch derivative, pectin,

carrageenan, an exudate gum polysaccharide, polysaccharide derived from seed gum and alginates.

23. The composition of claim 22, wherein the cellulosic derivative is alpha cellulose.
24. The composition of claim 22, wherein the starch or starch derivatives is tapioca starch or corn starch.
25. The composition of claim 22, wherein the exudates gum polysaccharide is gum arabic, gum ghatti, gum karaya, and gum tragacanth.
26. The composition of claim 22, wherein the polysaccharide may be derived from seed gum is guar gum or locust bean gum.
27. The composition of claim 18, wherein said composition further comprises limestone.
28. The composition of claim 18, wherein said composition further comprises a drying agent.
29. The composition 28, wherein the drying agent is fir bark.
30. A method of increasing crop yield comprising administering to a seed or seed pieces a composition comprising a peptide alone or a polysaccharide alone or a combination of the peptide and polysaccharide in a ratio ranging from 99.9% peptide: 0.1% polysaccharide to 0.1% peptide: 99.9% polysaccharide and an additive, wherein 1-50% of the composition include the peptide and/or the polysaccharide and 50-99% include additives that promote stability and functionality of the composition as a dry powder mix.
31. A method for accelerating crop emergence comprising administering to a seed and seed pieces a composition comprising a peptide alone or a polysaccharide alone or a combination of the peptide and polysaccharide in a ratio ranging from 99.9% peptide: 0.1% polysaccharide to 0.1% peptide: 99.9% polysaccharide and an additive, wherein 1-50% of the composition include the

peptide and/or the polysaccharide and 50-99% include additives that promote stability and functionality of the composition as a dry powder mix.

32. A method accelerating crop maturity comprising administering to a seed or seed pieces a composition comprising a peptide alone or a polysaccharide alone or a combination of the peptide and polysaccharide in a ratio ranging from 99.9% peptide: 0.1% polysaccharide to 0.1% peptide: 99.9% polysaccharide and an additive, wherein 1-50% of the composition include the peptide and/or the polysaccharide and 50-99% include additives that promote stability and functionality of the composition as a dry powder mix.
33. The method of claims 30, 31 or 32, wherein the seed piece is a potato.
34. The method of claim 30, 31 or 32, wherein the seed is a grain.
35. The method of claim 34, wherein the grain is barley.
36. The method of claims 30, 31 or 32, wherein administering is performed before seeding of said crop.
37. The method of claims 30, 31 or 32, wherein administering is performed simultaneously with seeding of said crop.
38. The method of claims 30, 31 or 32, wherein the peptide is isolated from a natural, synthetic or recombinant source.
39. The method of claims 30, 31 or 32, wherein the peptide is or is obtained from corn gluten meal, zein, soybean protein, whey protein, Bakers yeast extract, wheat gluten, bone meal, casein, animal collagen, gelatin, wheat flour, edible fish meal, cottonseed meal, corn flour, meat meal, nutria meat, oatmeal, pecan shell flour, pectin, rye flour, edible seaweed, soybean meal, soy flour, soy protein, sugarbeet meal, walnut flour, wheat, whey, ground oats.
40. The method of claim 30, 31 or 32, wherein the polysaccharide is selected from the group consisting of a cellulosic derivative, starch or a starch derivative,

pectin, carrageenan, an exudate gum polysaccharide, polysaccharide may be derived from seed gum and alginates.

41. The method of claim 40, wherein the cellulosic derivative is alpha cellulose.
42. The method of claim 40, wherein the starch or starch derivatives is tapioca starch or corn starch.
43. The method of claim 40, wherein the exudates gum polysaccharide is gum arabic, gum ghatti, gum karaya, and gum tragacanth.
44. The method of claim 40, wherein the polysaccharide may be derived from seed gum is guar gum or locust bean gum.
45. The method of claims 30, 31 or 32, wherein the additive is a solublizing agent, surfactant, emulsifier, pH control agent, buffer, anti-microbial compound, chelating agent, thickener, drying agent, or mixture thereof.
46. The method of claim 45, wherein the solubilizing agent is glycol, propylene glycol, or other low molecular weight alcohols.
47. The method of claim 45, wherein the surfactant is alkylpolyglucosides, fatty alcohols, fatty acids, or alkylbenzenesulfonates and dispersants.
48. The method of claim 45, wherein the emulsifier is lecithin or sorbitan monooleate.
49. The method of claim 45, wherein the pH control agent is mineral acids and their salts, organic acids and their salts, bases, both organic and inorganic.
50. The method of claim 45, wherein the buffer is phosphates, acetates, or carbonates.
51. The method of claim 45, wherein the anti-microbial compound is BHT, methyl or propylparaben, benzoic acid, sorbic acid, or propionic acid and their salts.

52. The method of claim 45, wherein the chelating agent is EDTA, MEA, or TEA.
53. The method of claim 45, wherein the thickener is glucerol.
54. The method of claim 45, wherein the drying agent is fir bark.